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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,800	09/30/2005	Akihiko Iguchi	MAT-8745US	6547

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RATNERPRESTIA  
P.O. BOX 980  
VALLEY FORGE, PA 19482

EXAMINER
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HANNON, CHRISTIAN A

ART UNIT	PAPER NUMBER
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2618

MAIL DATE	DELIVERY MODE
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06/19/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/551,800	<b>Applicant(s)</b> IGUCHI, AKIHIKO	
	<b>Examiner</b> Christian A. Hannon	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 8 and 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/30/2005 &amp; 3/7/2006</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 9/30/2005 & 3/7/2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner is considering the information disclosure statement.

### ***Drawings***

3. Figures 2B, 7A & 7B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant admitted prior art (AAPA) in view of Buris et al (US 6,563,467), hereinafter Buris.

Regarding claim 1, the AAPA teaches a portable wireless apparatus comprising a first casing including a front case on the side having a main display, a back case on the opposite side of the front case, and a first circuit board, a second casing including a front case on the side having an input unit, a back case on the opposite side of the front case, and a second circuit board, a circuit board connector for electrically connecting the first circuit board and the second circuit board and a hinge having the circuit board connector for connecting the first casing and the second casing in a foldable manner and an antenna connected to the hinge side of the second circuit board (Page 1, Lines 10-25 & Page 21-15; Applicant Specification). However the AAPA fails to teach a first parasitic element configured in the front case and made longer than the electrical length of the antenna and a second parasitic element configured in the back case and made shorter than the electrical length of the antenna. Buris teaches a first parasitic element configured in the front case and made longer than the electrical length of the antenna

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and a second parasitic element configured in the back case and made shorter than the electrical length of the antenna (Figure 2, Items 240 & 250; Column 3, Lines 42-53; Buris). Therefore it would have been obvious to combine the teachings of the AAPA with those of Buris in order to improve the efficiency of the antenna pattern shape.

Regarding claim 2, the AAPA and Buris teach claim 1, furthermore Buris teaches wherein the length of the first parasitic element is larger than one half wavelength of a predetermined frequency band and wherein the length of the second parasitic element is smaller than one half wavelength of a predetermined frequency band (Column 2, Lines 29-32; Column 3, Lines 42-53; Buris).

Regarding claim 3, the AAPA and Buris teach claim 1, furthermore Buris teaches wherein the first parasitic element is disposed in the front case of the first casing and wherein the second parasitic element is disposed in the back case of the first casing (Figure 2, 'first casing' which houses item 214, the portion below the hinge; Buris).

Regarding claim 4, the AAPA and Buris teach claim 1, furthermore Buris teaches wherein the first parasitic element and the second parasitic element are disposed at the positions of the first casing in which they are opposed to each other (Figure 2; Buris).

Regarding claim 5, the AAPA and Buris teach claim 1, furthermore Buris teaches wherein the first parasitic element is configured by plating the first casing and wherein the second parasitic element is configured by plating the second casing (Column 2, Lines 44-50; Buris).

Regarding claim 6, the AAPA and Buris teach claim 1, wherein the first parasitic element is configured by fixing a metal sheet on the case of the first casing and wherein

the second parasitic element is configured by fixing a metal sheet on the case of the second casing (Column 2, Lines 44-50; Buris).

Regarding claim 7, the AAPA and Buris teach claim 1, wherein at least either the first parasitic element or the second parasitic element is formed generally into a shape of letter substantially "U" according to the shape of the first casing or the second casing (Figure 2, U shaped bend, Item 241; Buris).

***Allowable Subject Matter***

6. Claims 8 & 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 8, the AAPA and Buris teach the limitations of claim 1, however in combination or alone they fail to suggest a third parasitic element disposed in the front case of the second casing, a fourth parasitic element disposed in the back case of the second casing a first connector for electrically connecting the first parasitic element and the third parasitic element and a second connector for electrically connecting the second parasitic element and the fourth parasitic element wherein the first connector and the second connector are individually threaded in the hinge. Furthermore the AAPA and Buris do not teach a suggestion or motivation for duplicating the paired parasitic elements.

Claim 9 is objected to as it depends from objected claim 8.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tiao-Hsing et al (US 6,697,023) disclose a built-in multi-band mobile phone antenna with meandering conductive portions.

Vance (7,162,264) discloses a tunable parasitic resonator.

Nagumo et al (US 2003/0045324) disclose a wireless communications apparatus.

Iwai et al (US 2004/0219956) disclose a portable radio communication apparatus provided with a boom portion and a part of housing operating as an antenna.


Holshouser et al (US 6,249,688) disclose an antenna electrical coupling configurations.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian A. Hannon whose telephone number is (571) 272-7385. The examiner can normally be reached on Mon. - Fri. 8:00 AM - 4:30 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



C. Mannon  
May 25, 2007



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